

# Furuncular Myiasis: A Case Report

Thomas N. Helm, MD; Kristin Augenblick; Wayne Gall, PhD

*Most clinicians associate myiasis with travel to a tropical location. We report a case of endemic myiasis due to Cuterebra species to remind clinicians that myiasis can occur throughout North America.*

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## Case Report

A 55-year-old man noted swelling and discomfort around his left eye approximately 1 week after clearing vegetation in a wooded area of Allegany County, New York. He had no recent history of travel outside New York State. His health was otherwise unremarkable. He reported feeling intermittent pain and something “retracting in and out” as well as frequent drainage of clear to brown seropurulent fluid. Treatment with oral ciprofloxacin and cephalexin had no impact on the swelling and the opening did not heal.

Physical examination revealed a fluctuant area by the left eyebrow (Figure 1). This area was incised approximately 1 month after the onset of symptoms and a dark segmented structure was removed (Figure 2). The segmented structure was an early third-instar larva of a rodent and rabbit botfly in the genus *Cuterebra* (order Diptera, family Oestridae, subfamily Cuterebridae).

## Comment

The furuncular lesion that results when larvae (also known as maggots or bots) burrow into the dermis is known as a warble.<sup>1,2</sup> Furuncular myiasis is recognized as one of the 3 forms of cutaneous myiasis; the other 2 forms are wound myiasis and dermal myiasis (sometimes called migratory or creeping myiasis).<sup>2-4</sup> Humans are accidental or incidental hosts of rodent and rabbit botflies and typically are infested from August through October.<sup>1,4-6</sup> Cutaneous myiasis



**Figure 1.** Erythema and swelling of eyebrow and eyelid area.



**Figure 2.** Dorsal view of third-instar larva of *Cuterebra* species (anterior end on left)(12.5×8.5 mm). White mass on lower right is gut and tracheae that became eviscerated during extraction and/or preservation of larva.

of humans caused by *Cuterebra* species is rare in North America and has been noted in the following states: Connecticut<sup>7,8</sup>; New Hampshire<sup>6,9,10</sup>; Massachusetts<sup>11</sup>; New York<sup>12</sup>; Pennsylvania<sup>13,14</sup>; and Ontario, Canada.<sup>15-17</sup> Children are infested more often than adults.<sup>1,4,6,15,16</sup>

Twenty-six species of rodent and rabbit botflies in the genus *Cuterebra* are recorded from North America.<sup>18</sup> The genus *Cuterebra* is widespread in

Dr. Helm and Ms. Augenblick are from the Buffalo Medical Group, Williamsville, New York. Dr. Gall is from the New York State Department of Health, Albany.

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Correspondence: Thomas N. Helm, MD, Buffalo Medical Group, 6255 Sheridan Dr, Building B, Ste 208, Williamsville, NY 14221 (thelm@buffalomedicalgroup.com).

North and Central America from the Northwest Territories and British Columbia to Nova Scotia and south to Baja California, Panama, and Florida.<sup>19</sup> Rodent and rabbit botflies typically infest tree squirrels, chipmunks, white-footed mice, deer mice, meadow voles, and other rodents, as well as rabbits and hares.<sup>1-3,5,19,20</sup> Eggs usually are laid near areas of host activity (eg, nests, burrows, lairs, along runs) by the large bumblebeelike flies.<sup>2,4-6</sup> They are ready to hatch after 1 week when triggered by a sudden rise in temperature from a warm host nearby.<sup>2,5,16,20</sup> The duration of larval development varies from 2 to 10 weeks. When mature, the third-instar larva backs out through the warble pore and drops to the ground to pupate.<sup>2,4,5,20</sup>

The clinical presentation is similar to furuncular myiasis caused by *Dermatobia hominis*.<sup>21</sup> The third-instar larva of rodent and rabbit botflies has a relatively dense covering of scalelike spines that are evenly distributed over the body surface when viewed under magnification. In contrast, the third-instar larva of the human botfly has discrete rings of spines that are most evident on the median body segments.

The spiracular openings to the maggot's tracheal system are located at the posterior end of the maggot's body, and these openings are positioned at the opening of the warble pore in the host's dermis. The larva is positioned head down and application of occlusive agents, such as petroleum jelly, to the warble pore prompts the suffocating maggot to back out of the warble.<sup>4,6,10,12,15,16</sup> Alternatively, treatment by incision and drainage or surgical excision typically is followed by rapid resolution.<sup>22</sup>

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